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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,689	03/23/2004	Mitsuaki Nishie	12852-023001 / 103315-US-	2437
26211	7590	03/23/2006	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			HUGHES, JAMES P	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,689

Applicant(s)

NISHIE ET AL.

Examiner

James P. Hughes

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[Handwritten Signature]

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 122705 081204.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gurevich et al. (6,939,058). Gurevich teaches a bidirectional optical transmission and receiver module comprising: a light-emitting device (LD 142) for emitting light having a first wavelength which is to be incident on an optical transmission medium (e.g. optical fiber connecting unit comprising fiber 176, ferrule 174, spacer 172); a photo diode (148) for receiving light emitted from the optical fiber (176) which is a different wavelength than that emitted by the laser (142); optical path routing elements (e.g. 152, 162) for converging the optical path of light having the first wavelength and the second wavelength on the optical transmission medium side and for separating the optical path of light having the first wavelength on the side of side of the LD (142) and the path of light having the second wavelength on the side of the PD (148) in the directions of the LD (142) and PD (148), respectively; and a lens (178) transparent to the both wavelengths positioned between the fiber (176) and path routing elements (e.g. 152, 162). The optical routing elements comprise a transmission-reflection element (dichroic mirror 152, that may be a multilayer film or dielectric mirror) which allows light having the second wavelength to pass

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while reflecting the first wavelength and a full reflection mirror (162) which reflects the light of the second wavelength. (See e.g. Col. 9, ll. 30 – Col. 11, ll. 50 and Figs. 1-3)

However, Gurevich does not teach that the optical routing and selection elements (e.g. 152, 162) are integrated into a single device. It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate such elements into a single device to yield a more compact device as making two parts integral is within the skill of one of ordinary skill in the art. One would have been motivated to do so to yield a more compact device.

Regarding claim 8, while Gurevich does not explicitly teach an amplifier attached to the PD, as it is notorious well known in the art that amplifiers – such as op-amp circuits – may be employed to boost the signal from photo detectors; it would have been obvious to one of ordinary skill in the art at the time of the invention to employ an amplifying circuit in the invention of Gurevich to increase the signal strength of the detected light thereby providing a more efficient detection system.

Regarding claims 9-12; Gurevich does not explicitly teach a pole for supporting the routing element with the lens provided in a cap which covers the pole. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to mount the integrated routing element of Gurevich in such a way as to yields more compact device. One would have been motivated to do so to reduce the total real estate the CAN takes in an transmission / reception module.

Regarding claims 13-19; Gurevich does not explicitly teach the supporting mechanism for the Ferrule 174. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a sleeve for holding the ferrule 174 in the invention of Gurevich because

such sleeves are notoriously well-known in the art for supporting ferrules in fiber optic connectors. One would have been motivated to do so because this would allow an efficient means for supporting the ferrule 174 while providing compatibility with other fiber optic systems.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cohen et al. (2002/0196500) teaches an optical module and corresponding method comprising: emitting light (e.g. 74) from a solid state laser (e.g. 62) through a plate – or cover – (e.g. 76) that is transported to light (74) emitted by laser (62). Additionally, said plate (76) reflects a portion (e.g. 74') of the emitted light (74) at a first reflective region in the plate (e.g. via coating 78 on plate 76). The reflected light is received at a second reflective region (e.g. 82) in the plate and directs said received light (74') to an optical monitor (e.g. photo diode 64) enclosed within a same housing as the laser (62). (See e.g. Paragraphs 33-55 and Figs. 3-4) Cohen et al. (6,873,799) is the U.S. Patent corresponding to PG Pub 2002/0196500.

Hauer teaches an optical module and method comprising: emitting light from a solid state device (VCSEL) through a plate (e.g. T2, T3) that is transparent to light emitted by the light emitting device; reflecting a portion of the emitted light at a first reflective region (e.g. V32 or S31, Fi1) in the plate; receiving the reflected light at a second reflective region (e.g. S31 or V32) in the plate and directing the received light to an optical monitor (e.g. PD) enclosed in the same system as the solid state device. Additionally, a portion of light may be reflected at a first reflective region (e.g. V32 or S31, Fi1) in a direction substantially perpendicular to a direction of light emitted by the light emitting device; using a second reflective region (e.g. S31 or V32) to

reflect some of the light reflected by the first reflective region to an optical monitor (e.g. PD or optical fiber Fa.)

Kilian (6,856,717, 2004/010836) teaches an optical module and method of sending light comprising: a substrate (22) with an hermetically sealed recess (28) wherein an optical emitter (30) and optical monitor (32) are mounted. The other references listed on the attached PTO 892 form list similar optical module device as is currently claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is 571-272-2474. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James P. Hughes
Patent Examiner
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Frank G. Font
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